

A Short Memoir

OF THE LATE

DR. BENJAMIN KNOWLES.

BY

A. R. PATERSON, M.D.,

HIS FELLOW STUDENT.

ABERDEEN:

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P R E F A C E.

To the relatives and professional friends of the late Dr. Benjamin Knowles (the unwelcome intelligence of whose sudden death, from heat apoplexy, in India, has just been received), the Author begs to offer this hurried sketch of his brief but interesting medical career. The love he bore to his profession, and especially his success in surgery, his many excellent and amiable qualities, early death, and the general expression of deep sorrow in which I sincerely join, together with the melancholy bereavement to his parents and near relatives, occasioned by the loss of

him, are some of the considerations that have induced me to address this to you. For the errors and shortcomings contained in this poor but honest endeavour to place before you the social and intellectual qualities which distinguished our departed friend, and endeared him to all who knew him, I must ask your forbearance, feeling confident that you will generously extend the same to me.

In paying this small tribute to his memory, I feel that his worth justly entitles him to a Memoir on a larger scale, and from an abler pen than mine.

“*Palmarum qui meruit ferat.*”

11, UNION PLACE, 13th August, 1866.



MEMOIR

OF THE LATE

DR. BENJAMIN KNOWLES.

MANY and sad, I doubt not, were the regrets arising in the minds of those who had the pleasure of the acquaintance of the late Benjamin Knowles, M.D. (of the 6th Regiment Native Infantry, Punjaub), when they saw his name recorded in the obituary of the *Aberdeen Journal* of the 8th inst. This young and promising Surgeon, whose early death is so much to be deplored, was a graduate of the University of Aberdeen, and for some time he acted as resident Assistant-Surgeon in the Royal Infirmary of this

city. The prompt, accurate, and neat-handed way in which he performed the duties required of him, while holding this appointment, and the uncommon zeal and success that he displayed in the acquirement of surgical knowledge, secured for him at once the confidence and admiration of the senior members of the profession connected with this institution. Resembling his contemporaries, in his love and devotion to the Science of Medicine in all its branches, he differed from them in not spending the most of his time in the acquisition merely of book knowledge, or the accumulation of an ill digested assortment of facts, theories, useless minutiae, &c., as many students do, in the hope of attaining to class distinction or University honours. Dr. Benjamin Knowles had no such ambition, nor did he, like most of his fellow-students, confine himself to the study of one author on any particular subject, embracing every hypothesis and crotchety opinion presented to him. On the contrary, he examined the views of the various writers, laying hold of the opinions that appeared to him to be most consistent with scientific truth. Each hypothesis or theory was subjected by him to a rigid analysis, and if found faulty or inadequate to explain the facts of the case, was forthwith rejected as being crude and dangerous. Habitually accustomed to

exercise his own reasoning powers in all matters, and possessed of considerable mechanical genius, he instituted, ere he had yet emerged from the class-room, a series of experiments on the lower animals on his own account, to see whether he could do anything for his favourite study, Practical Surgery. And in this he was not disappointed. At this time the subject of Acupressure as a means of arresting hæmorrhage from large blood-vessels was beginning to attract the notice of the surgical world. The proposal of Dr. Simpson had deeply engaged the attention of Dr. Knowles, and in his own experiments, he, happily, soon succeeded in devising a simple, yet successful, method of his own. Having submitted the facts of his discovery to the Surgeons of the Royal Infirmary, it was immediately put to the test, and found to be the most convenient and efficient method yet proposed.

A description of this method very soon afterwards appeared in the *Lancet*, and having been observed by Prof. Simpson (now Sir J. Y. Simpson, Bart.), he sent his son (a young man of rising talent, who, alas ! is now like poor Dr. Knowles, all too soon sleeping the eternal sleep), to Aberdeen to get ocular demonstration of this new plan. Being perfectly satisfied with the superiority of this method

over that formerly adopted, he, Mr. Simpson, returned to Edinburgh, and shortly after this Dr. Knowles had the pleasure of visiting Professor Simpson. This immortal man, who for the relief of afflicted humanity, probably takes the foremost place amongst the master spirits of this or any previous age, must have respected, if not admired, the juvenile contributor to Surgical Science, as will appear from the following quotation taken from his work on Acupressure :—

“ This (Dr. Knowles’) mode of Acupressure formed one of the earliest which I tried in practice, for I employed it in 1860 in a case where Dr. Handyside removed by the knife a cancrroid tumour of the vulva. The wall of the wound was perpendicular, and I secured in the manner detailed the principal bleeding vessels exposed on its surface. I employed it also in a case of amputation by Mr. Edwards, but at the time it appeared to me that the other methods were preferable. The late experience of the excellent Surgical Staff at the Aberdeen Hospital makes me now doubt if I was correct in that opinion ; and I think that the highest credit is due to their young and talented Surgeon, Dr. Knowles, for devising, quite independently, this special form of Acupressure, and for getting it applied

in practice. In a communication which I have received from Dr. Knowles whilst the preceding sheet was in the press, that gentleman describes that the method which he had induced the Surgical Staff at Aberdeen to use was as follows:—

‘ A needle is placed beneath the artery, from right to left, a little above where it is bleeding, taking in as little of the surrounding tissue as possible ; the point of the needle is raised, twisted round over the vessel, sufficiently far to compress it, and then pushed into the muscular tissue beyond which serves to retain the twist thus given to the artery. Needles thus inserted can be withdrawn at any-time with great ease. All that is necessary for the performance of this plan is a bayonet-pointed needle, $2\frac{1}{2}$ inches long, having a twisted wire 3 or 4 inches in length attached to it. The needles are to be preferred made of soft tempered steel, because when brittle, they are apt to break.’ ”

From this moment, Dr. Knowles was pointed out by professional men as one who possessed and exercised the rare gift of originality. Having thus at an astonishingly early period of his medical career, lent a helping hand with those who were labourers in the field of surgery, it was natural for his friends (and he had many) to look forward

to him as one destined, in all likelihood, to become renowned in surgery.

Although Sir J. Y. Simpson had adopted the same method in practice some time previously, yet the discovery was quite original on the part of Dr Knowles, and the fact of Professor Simpson having used it once, and afterwards abandoned it, renders it all the more the method of Knowles. Doubtless, this improvement in the method of inserting needles for the arrest of hæmorrhage after operations, may appear to many a simple, and, perhaps, insignificant affair, but rightly regarded, it ought to raise its inventor in our esteem far more than if he had compiled half a score of books from pre-existing materials. It shows that he had originality of thought, which is always a sign of intellectual weight. To store the mind with facts is easily attainable by those who are possessed of the power of application with nothing beyond average intellect, and to collect, arrange, and form the ideas of others into a book is simply little more than manual labour. But to be able to produce new ideas that take a place in science, requires mental qualities of an unspeakably higher order, and at once places the individual in possession of such on a level far above the majority of compiling authors. Com-

pilation, however, is not to be despised, for the mere compiler, if honest and judicious, who arranges the ideas of others into a shorter and more intelligible form, is to be praised for his patient application, and he must also get credit for what ingenuity he may display in presenting a cheap and useful text book, although manufactured from the ideas of others. But between this kind of talent (if talent it can be called) and that which constitutes an "original man," there is no parallel whatever. The individual in possession of the former merely, must remain at the bottom of the "steep," the man who is endowed with the latter may soar, god-like, to the top,

"Where fame's proud temple shines afar."

The talent of the one dies, and is buried with himself in the limbo of oblivion ; the talent of the other, having an immortal life of its own, shines like a luminary in the intellectual heaven, giving light to those who are in darkness.

To enable us the better to appreciate the smallest improvement in the means adopted for the arrest of blood from large vessels, we must go back to the early ages, and view the healing art as it then existed. From Hippocrates,

down the long chain of centuries, to the days of Ambrose Paré, surgery was little more than barbarity and murder. For fourteen hundred years or more, bleeding was the great "bug-bear of surgery." So great a dread of hæmorrhage had the ancients, that no operation of any magnitude whatever would be sanctioned, or even considered warrantable, where the division of an artery of some size was rendered necessary. And as a proof of this, I may mention, that Albucasis, long after the days of Galen, refused to amputate at the wrist joint, lest, said he, "I should see my patient bleed to death." But the patient having done so himself, it is said he recovered. The Arabian, Greek, and Roman Surgeons, would hardly attempt an operation of any kind where considerable blood vessels would have to be cut. And little wonder, for when they did operate, the unfortunate patient (if a large artery had been opened) generally bled to death, or died from the effect of the means used to arrest the hæmorrhage. An amputation, therefore, was seldom thought of, or even attempted, until the affected limb was ready to drop off from mortification or other causes. When at length, however, it seemed practicable and safe, the precept laid down by Hippocrates, and which lasted throughout the surgical

“reign of terror,” a period of fourteen centuries, was almost always adopted. This consisted in making the incisions through the dead parts, where there would be less chance of uncontrollable hæmorrhage resulting from the division of large arteries, and then cauterizing the stump—sealing up the divided ends of the vessels.

Woe to the unhappy patient whose malady demanded the use of the knife, and the Surgeon of those days must not only have been a bold man to encounter an operation of any importance, while his art was so impotent; but he must have had a stout heart to have consented to be the means of inflicting so much agony and torture.

Could we but witness an operation—say an amputation—performed as it used to be a few centuries ago, what horrors would stare us in the face. Suppose for a moment, the patient, or rather victim, and operator, with his red-hot irons, are placed before us. Deprived of the inestimable blessings of ether or chloroform, he begins his dreadful work sick at heart and ill at ease, having little confidence in his ability to allay the appalling hæmorrhage that must necessarily ensue, and probably with serious reflections arising in his mind whether he is not about to destroy the life that he is seeking to save. Soon as the limb is hewn off,

the fiery instruments are applied to the ends of the blood vessels and nervous cords, and the agony resulting from this may be imagined, but, I think, can hardly be described. Suppose, if you can, that the patient survives the shock to the nervous system, and the danger of immediate and fatal loss of blood, there is yet a sad time in store for him. The drain on the system caused by the suppuration of parts whose vitality has been destroyed by the use of the actual cautery, and the danger of secondary hæmorrhage on the separation of sloughs. This is the sad and inevitable sequel to such a proceeding. Sometimes the instantaneous operation, if I may so name it, was had recourse to. This consisted in placing the sharp edge of an axe against the extremity to be dismembered, while the surgeon clutched a heavy wooden mallet, and with one fell stroke severed the limb from the body. No sooner had he crashed through bone and muscle than the terrible irons were at work, searing and singeing the stump, sometimes to such a degree that the very odours arising from burnt human flesh and blood was enough (awful as it may seem) to tell that an amputation had been performed.

Yet another method of amputation, as practised by the ancients, and I have done. It has been called the bloodless

operation, and was first practised by Guido Di Caulico, who declared "that it was better for the limb to drop off than be cut off." In order to effect this, he covered the limb with pitch plaster, and applied a cord tightly round one of the joints, so as effectually to stop the circulation through the extremity below the constriction. This speedily resulted in the death of the part, which ultimately fell off.

No wonder then that patients, in "these dismal days of surgery," preferred rather to die of their disease than run the risk of being killed by the doctor. I cannot do better than quote a passage from Sir J. Y. Simpson's work on Acupressure on this head. He says—"It is difficult for the mind to realize the untold agonies of the surgical sufferer of these times, under the dreadful double ordeal of cutting and burning—of knife and fire.

"The horrors of the patient, exclaims John Bell, and his ungovernable cries, the hurry of the operator and assistants, the sparkling of the irons and the hissing of the blood against them, must have been terrible scenes, and surgery must in those days have been a horrid trade." Such is the grim and bloody picture presented to us by the surgery of the past. From the contemplation of such

brutal and atrocious scenes the mind turns away in disgust, and to those unacquainted with the history of surgery in the middle ages, when its representatives were sunk in the deepest ignorance, such a state of things may seem to stagger all credulity. Nevertheless, such a state of things did exist, and the picture that it presents, although grim and bloody, is yet withal true. * What, then, let it be asked, was the cause of all this? It was this—a want of knowledge of anatomy on the part of those who practised the healing art, especially their unacquaintance with the nature, course, and relations of the arteries and veins, and the want of any correct notion of the circulation of the blood through them. Hence the interest and importance of this knowledge to medical men, the want of which we see caused so much misery. In a lecture delivered at the University of London, Professor Samuel Cooper, referring to the importance of this knowledge to the general practitioner, remarks as follows:—

“It is scarcely necessary to remind you that of all the injuries of the body for which surgical assistance is demanded, there are none which require so prompt a recollection of Anatomy, as hæmorrhage from great arteries. Indeed, it is difficult to conceive how a professional man

can remain with his conscience at ease, while he is unacquainted with the course and relative position of the arteries of the human frame. From want of this knowledge, a practitioner may lose his reputation in an instant. He may understand the common routine of his profession, but an unfortunate case of hæmorrhage may at length demand his assistance, and from his not knowing how to proceed, all his prospects in life may be suddenly blasted. In the present spirit of the times, you know very well, Gentlemen, that every serious error in practice receives no commiseration, especially when committed by a regular member of the profession—a Quack is spared, but a Physician is consigned to infamy and ruin.”

And about the 14th century, as if to deepen and extend the horrors of the surgery of this epoch, by creating new and unforeseen demands upon its barbarous and inefficient resources, gunpowder was invented, and applied to the purposes of war, and as Brunninghausen graphically remarks :—“ Human nature groaned under a new evil, for which there were for some time no judicious plans of relief.” The bones of the extremity being shattered, and the muscles and blood vessels lacerated by the passage of a bullet through them, would, of course, render frequent

amputations imperative. What a day of “burning and cutting—of knife and fire,” then must have been the day of battle. Far better had the unfortunate victims been left to their fate, instead of being thus subjected to so cruel an ordeal, which could but add to their miseries, and prolong their sufferings, without materially adding to their chances of life, for as the tide of life escapes, kind Nature throws her over deepening anæsthesia over the sufferer, and a blissful euthanasia closes the scene.

A century or two more, and it begins to appear that the night of ignorance is not to last for ever. The wail of suffering and woe that arose from the human family has gone up to heaven, and now it is proclaimed to the inhabitants of Europe that the surgical “Reign of Terror” is about to close. Behold in the western horizon a star has arisen to give light to those who are groping their way amidst darkness, doubt, and difficulty. And now that the sum of human misery has been somewhat lessened, there dawns with Ambrose Paré, a new and a happier era in the history of Surgery. This was a great surgeon who flourished in France about the middle of the 16th century. If he was not the first to discover the ligature, he was the first to introduce it after amputation—calling on the

members of the profession to bid an “eternal adieu” to the instruments of fire. And is it not lamentable to learn that his contemporaries, instead of considering him a blessing to his fellow-creatures, and an ornament to his profession, branded him as being an impudent upstart, an innovator in surgical science, and an enemy to its best principles—a rash meddler with the precepts that had been established for 1400 years, and handed down to them by their forefathers? For nearly two centuries after this, notwithstanding the great advance of anatomical knowledge, which began to be studied with great vigour during the 15th century, and the great success of the ligature as applied to blood vessels after amputations, many influential surgeons endeavoured to throw cold water on it, and clamoured for a return to the good old plan, viz., the “cutting and burning—the knife and fire.” Need it be wondered at then, that in this backward state of professional feeling, the immortal Harvey, dreading the storm of persecution that would infallibly overtake him on the announcement of his grand discovery of the circulation of the blood, was almost afraid to tell it, as will appear from his own words, when he says:—“Those things which remain to be mentioned, although they are very considerable, yet when I shall speak

of them, they are so novel and unheard of, that I not only fear mischief which may originate to me from the envy of some individuals, but I likewise expect that every man almost will prove to be my enemy, so much does custom and doctrine, once received and deeply rooted (as if it were another nature) prevail with every one, and the venerable reverence of antiquity enforces it." What a pity that such obstacles to the onward march of science should have been started on grounds so absurd and indefensible, and so unworthy of the distinguished individuals who raised them.

For example, Primrose, an eminent French Surgeon, and I am sorry to have to add, of Scottish extraction ; Riolanus, Professor of Anatomy in Paris ; Parisanus, of Venice ; Hofman, of Naremburg, Veslingius of Padua, &c., with many other distinguished professors and anatomists, were foremost in the opposition to the doctrines of Harvey. This seems all the more extraordinary, seeing that Hofman and others had before this admitted, it is said, the circulation, through the lungs, from the right side of the heart to the left. The unfortunate Servetus, a Spanish Physician of more than ordinary talent, almost a century prior to the discovery of Harvey, had the merit unquestionably of being the first to describe the lesser or pulmonic circulation. He flourished

in the sixteenth century, and having, during the Reformation, opposed the theological doctrines of Calvin, was barbarously murdered by him. This cast an indelible stain on the character of the great Reformer that will for ever tarnish his memory. If I mistake not, he caused him to be burned to death. The sum of my generosity will not, I confess, allow me to admit the apology of Harvey in full for those who opposed and condemned every new theory, although proved to be "good and sound." There was something more than that—a something prompted by the ineffable conceit of human nature, that excited their hostility. There was rivalry, and its eternal concomitant jealousy, which at any rate had something to do in setting them up to oppose and condemn. That such an agency is still in powerful operation (and will continue to operate, I doubt not, till the end of time) among the modern stars of first magnitude, producing wranglings, and disseminating the seeds of enmity and ill-will, is only too evident to all. One feels sorry on hearing of men of undoubted ability condescending, in the heat of discussion or passion, to give utterance to little more than angry jargon. So is it in the present time as it was in the days of Harvey and Ambrose Paré.

In this brief sketch of the means adopted by the ancients for the arrest of hæmorrhage, we have arrived now at a time when anatomy was better and more generally known, and when physiology was beginning to emerge from the womb of futurity.

Everything, therefore, seems ripe for the discovery of the circulation, and as Willis, in his life of Harvey, has beautifully remarked—"On the doctrine of the circulation the dawn had long been visible; Harvey came, and the sun arose." But with the announcement of this discovery which was to transmit his name to all generations to come, extraordinary to tell, as he says himself, "he fell mightily in his practice." The old spirit of envy pervading the profession, was again at work, and although his rivals could no longer dispute his pre-eminent claims to originality of mind, they declared that as a practical man he was utterly worthless. There is a striking passage in reference to this which I cannot refrain from quoting from Willis—

"John Aubrey tells us he had heard him (Harvey) say after his book on the circulation of blood came out, that he fell mightily in his practice, 'twas believed by the vulgar that he was crackbrained, and all the Physicians were against him."

“So has it mostly been,” says the same author, “with those who have added to the sum of human knowledge. The empiric, under the title of the practical man in his unsuspecting ignorance, sets himself up, and is admitted as arbiter wherever there is difficulty; blind himself, he leads the blinded multitude the way he lists. He who laid the foundation of modern medical science lost his practice for his pains, and the routineer, with an appropriate salve for every sore, a pill and potion for each particular ache and ail, would not give threepence for one of his prescriptions! did not admire his therapeutic way!! and could not tell what he did aim at!!! Ignorance and presumption have never hesitated to rend the veil that science and modesty, all in supplying the means, have still owned their inability to raise. If Harvey faltered, who of his contemporaries could rightfully presume to walk secure? And yet did each and all of them, unconscious of the darkness, tread their twilight paths assuredly; whilst he, the divinity among them, with his eyes unsealed, felt little certain of his way. So has it still been with medicine, and the world must make many a lusty onward stride in knowledge before it can be otherwise.”

Its great bugbear having now received its last death

blow from the discovery of Harvey, the science of surgery marched onwards in rapid strides. The dread of uncontrollable hæmorrhage no longer filled its votaries with dismay, and operations soon became general. One star after another shines out in noble splendour, viz., Morell, Petit, Jones, Hunter, Simpson, &c.; and now, God be praised, the surgeon can undertake to perform operations, comparatively speaking, without danger and without pain. Those scenes of agony and horror attendant upon operations, which sickened and appalled the stoutest heart, have passed away, and the surgeon is not now the man of terror that he used to be.

Such were the great spirits whom God has successively placed amongst us to pioneer the way onwards from those times of scientific darkness and horror, and by their shining talents, as if with lighted lamps, to dispel the mists of ignorance and prejudice that then warped the professional mind, and opposed all advancement in surgery.

These were the great men whose memories were revered by the late Dr. Knowles, and it is something singular that he should have had his name associated with them so soon. But so it is; and when the importance of the subject hæmorrhage in surgery is considered, his dis-

covery must rise in the estimation of every one, and who can tell, had he been spared, whether, in the course of a long life, he might not have arrived at like eminence with those to whom he has now become related in surgery, and been of like benefit to suffering humanity.

“I think that the highest credit is due to their young and talented surgeon, Dr. Knowles.” Words like these, coming from the pen of such a man as Dr. Simpson, were words of promise for his future greatness, and at anyrate render the supposition that he might have attained to honour, if not eminence in his profession not at all improbable or extravagant. Possessing such qualities as firmness and decision of character, a sound knowledge of anatomy and operative surgery, calm confidence in himself in any emergency, dexterity and neat-handedness, together with social qualities that endeared him to all who came into contact with him, is it to be wondered at that his death has caused more than ordinary regret, especially among medical men? But death was indifferent to all this. He takes no account of such virtues. All must succumb at his bidding. He has no mercy, and he takes no denial.

“Everybody liked Benjy,” is the general saying among

all who knew him, and it is true. Even the few months he had served in his Regiment were enough to endear him to all with whom he associated, as will appear from the letter sent by the Major in command, to his father intimating his death—

“ KOHAT, PUNJAB, 29th June, 1866.

“ MY DEAR SIR,

“ It is with the deepest regret that I write to inform you of the death this day of your poor son, in medical charge of my Regiment, an officer who, although only a short time with my Regiment, had already endeared himself by his frank disposition and natural good temper to all who had the pleasure of his acquaintance. The poor fellow will be buried this evening with military honours, and a monument will be erected to his memory by the officers of the Regiment, a photograph of which, if I can procure one, shall be forwarded to you. You must excuse this hurried scrawl, as I am only just in time to save the mail. You shall hear from me again on the first opportunity.

“ I am, very truly yours,

“ DASHWOOD HOSTE, Major,

“ Commdt. 6th Regt. Punjaub Infantry.”

This letter, full of truly kind and gentlemanly feeling, has been a source of great consolation to his parents. The

fact that their poor son had been under the care and charge of such a man. But here I must needs end, having already far exceeded the limits of my first intention. And in taking my farewell of "Benjy," let me just observe that sad and sorrowful as his death may appear, yet, the first burst of grief over, in the calm succeeding, there arise reflections within us that bid us banish all selfish regrets for the past, and engage our minds with the happy contemplation of man's brighter prospects, when the spirit, freed from its "mortal coil," shall emerge upon the heavenly arena, and begin its new and glorious career of immortality, when its upward aspirations know not the restraints of this mortal economy, and shall never again experience the chilling check of death. It has been fondly said by a devoted friend of his, "that it would be difficult to tell of a warmer heart than that which has thus so early and suddenly ceased to beat."

That one so full of life and vigour, so young, and giving token of such promise, should have so suddenly and so unexpectedly ceased to be, is one of those dispensations of Providence, which, although now to us inscrutable, we must accept as being beneficent and just. Since, then, the Great Author of our being has, in His wisdom, seen fit

to call our friend hence, let us in deep and humble resignation, breathe out "Thy will be done."

Dame Retrospection, clothed in sable dress,
Shows me his form, each feature, and each grace;
And, as a river to an ocean vast,
Fast flow the recollections of the past.

Then comes a voice, as from his dark abode,
And fills the ear with tones of heaven and God;
These words of comfort in those tones we hear,
He whom you weep now soars in brighter sphere.

We weep, nor recent nor primeval dead,
Now new-born visions to our view are spread,
New thoughts of death rush on the gazing soul,
Inspiring praises to the Lord of all.

Great God, all-wise, omnipotent, divine,
At Thy great will what being should repine;
Love, wisdom, truth, and mercy crown Thy throne,
Jehovah, King Eternal, God alone.